

کلاس: دهم، درس: A

باستفاده از روشی تکلیف شماره: ۷

نام و نام خانوادگی: نامن آزادی

$$y = \sqrt{x f(x)}$$

$$x f(x) \geq 0$$

$$\begin{array}{cccccc} - & - & 0 & + & + & 0 \\ + & \phi & - & \phi & - & \phi \end{array}$$

$$D_f = [-5, 0] \cup [2, 5]$$

$$y = \sqrt{\frac{-x}{f(x)}}$$

$$\frac{-x}{f(x)} \geq 0, \quad f(x) \neq 0$$

$$\begin{array}{cccccc} - & + & 0 & - & - & 0 \\ \phi & + & \phi & - & \phi & + & \phi \end{array}$$

$$D_f = (-2, 0) \cup (0, 2)$$

$$\boxed{-2, -1, 1} \leftarrow \text{نکته صحیح}$$

$$f(x) = 2f(2) = x^2 - 2x + 4$$

$$\text{if } x=2 \rightarrow f(2) - 2f(2) = 4 - 4 + 4 = 2$$

$$\text{if } x=-2 \rightarrow f(-2) - 2(-2) = 4 + 4 + 4 = 10 \Rightarrow \boxed{f(-2) = 10}$$

$$f(x) = \begin{cases} x - \sqrt{x+2} & x > 2 \\ 2x+2 & x \leq 2 \end{cases} \quad \text{تابعی}$$

$$f(f(5)) + f(f(1))$$

$$\rightarrow f(1) = 2+2=4$$

$$\rightarrow f(5) = 5 - \sqrt{7} = 2$$

$$\rightarrow f(2) = 4+2=6$$

$$\xrightarrow{\text{ناتوانی}} f(f(5)) + f(f(1)) = 2+6=8$$

$$f(x) = ax^2 - bx + 2$$

$$f(x-1) - f(x) = 4x+2 \quad \text{تساوی}$$

$$\rightarrow f(x-1) = a(x-1)^2 - b(x-1) + 2 \Rightarrow f(x-1) - f(x) = \underbrace{-2ax + a + b}_{-2a=4}$$

$$\boxed{a = -2}$$

$$a-b = -2-4 = \boxed{-6} \quad \text{ناتوانی}$$

$$\begin{aligned} -2+b &= 2 \\ \boxed{b &= 4} \end{aligned}$$

$$\frac{\overbrace{r f(r)}^{r(1)} + f(-1)}{f^r(r)} \Rightarrow \frac{r+1}{(-1)^r} = \frac{r}{1} = \boxed{r}$$

$$f(n) = n^r - r_{n+1}$$

$$\begin{cases} \rightarrow f(r) = 1 \\ \rightarrow f(-1) = 0 \\ \rightarrow f(r) = -1 \end{cases}$$

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$$\frac{r f(r) - r f(-r)}{f(r)} \Rightarrow \frac{r^2 - 1}{0} = \boxed{\frac{19}{0}}$$

$$f(n) = \begin{cases} r_{n+1} & n \geq r \\ n^r & n < r \end{cases}$$

$$\begin{cases} \rightarrow f(r) = 9 \\ \rightarrow f(-r) = r \\ \rightarrow f(r) = 0 \end{cases}$$

V

$$\frac{f(f(r)) - f(f(r))}{f(1) - r} \rightarrow \text{صورت صفر است}$$

$$\frac{0}{r} = \boxed{0} \text{ نهایی}$$

$$f = \{(r, r), (r, r), (r, 1), (1, 4)\}$$

$$\begin{aligned} \rightarrow f(r) = 1 &\rightarrow f(1) = 4 \\ \rightarrow f(r) = r &\rightarrow f(r) = 4 \end{aligned} \left. \vphantom{\begin{aligned} \rightarrow f(r) = 1 \\ \rightarrow f(r) = r \end{aligned}} \right\} 4 - 4 = 0$$

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$$f(f(\sqrt{r} - r))$$

$$\hookrightarrow n = \sqrt{r} - r \rightarrow n + r = \sqrt{r}$$

$$f(n) = \frac{n^r + r_{n+1}}{n^r + r_{n+1} + 1} \rightarrow \underbrace{(n+r)^r}_{(\sqrt{r})^r = r} + 1 = r + 1 = r$$

$$\rightarrow f(\sqrt{r} - r) = \frac{r + r}{r} = r$$

$$f(r) = \frac{r+1+r}{r+1+r} = \boxed{\frac{r}{1r}}$$

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$$(f(\sqrt{n}))^r - f(n)$$

$$f(n) = n^r + \frac{1}{n^r}$$

$$\rightarrow f(\sqrt{n}) = (\sqrt{n})^r + \frac{1}{(\sqrt{n})^r} = n + \frac{1}{n}$$

$$\rightarrow (f(\sqrt{n}))^r = \left(n + \frac{1}{n}\right)^r = n^r + r + \frac{1}{n^r}$$

$$\Rightarrow n^r + r + \frac{1}{n^r} - n^r - \frac{1}{n^r} = \boxed{r}$$

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